National Weather Service
Aberdeen, South Dakota

July 2009

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Below Normal Temperatures Continue

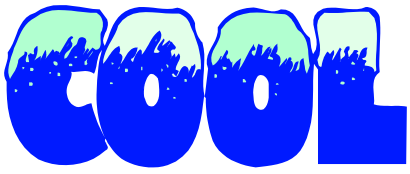
Temperatures this summer remain well below normal over much of the Northern Plains, including portions of South Dakota and west central Minnesota. This is not a new trend, as temperatures have generally been below normal since the winter of 2007-2008. Recall that last summer Pierre failed to reach 100F for only the second time since 1933.

A quick look at the temperature numbers this year indicate that the number of calendar days when the high temperatures have exceeded 90F, 95F or 100F at Pierre, Aberdeen and Watertown are well below climatological averages and very much mimic the trends from the summer of 2008.

The cause of significant temperature departures can range from changes in the global scale circulation (El Nino/La Nina) to more local effects (distribution of rainfall). It is often difficult to pin down ONE underlying reason for significant temperature departures, as there is often a multiplicity of causes. Two potential factors are listed below:

1. Above normal precipitation fell over much of the region this past winter. As such – soil moisture levels this spring were above normal, resulting in an energy budget where more solar radiation is used for evaporation rather than pure sensible heating.

2. The upper air pattern has consistently featured a ridge of high pressure over the western United States with a strong trough of low pressure in the east. This has led to a predominantly northwest flow pattern over the Dakotas, which is conducive for advecting cool air southward from Canada.



New Severe Hail Size Criteria

As of April 1, 2009, the size of severe hail increased from ¾ inch (penny size) to 1 inch size (quarter size). This change is in effect for several of the states in the Midwest and upper Midwest, including the Dakotas, Nebraska, Minnesota and others.

Background

The National Weather Service conducted a demonstration in the state of Kansas and adjoining County Warning Areas over the past four years, utilizing a hail size criterion for issuance of Severe Thunderstorm Warnings of 1" in diameter, rather than the historical ¾" threshold.

The basis for the change...

- Core partners shared concerns about the public becoming desensitized by numerous warnings being issued for marginal hail sizes.
- A Texas Tech research study, *"Hail damage threshold sizes for common roofing materials"* (Marshall, T.P., Richard F. Herzog, and Steven K. Smith, 2002:, 21st Conference on Severe Local Storms, San Antonio, TX) cited laboratory tests of numerous types of shingles. These tests showed hail damage to shingles and other roofing materials begins at 1-inch hail diameter.
- Customer responses in Kansas have indicated high satisfaction with adoption of the 1-inch hail criterion.

Expanded Implementation

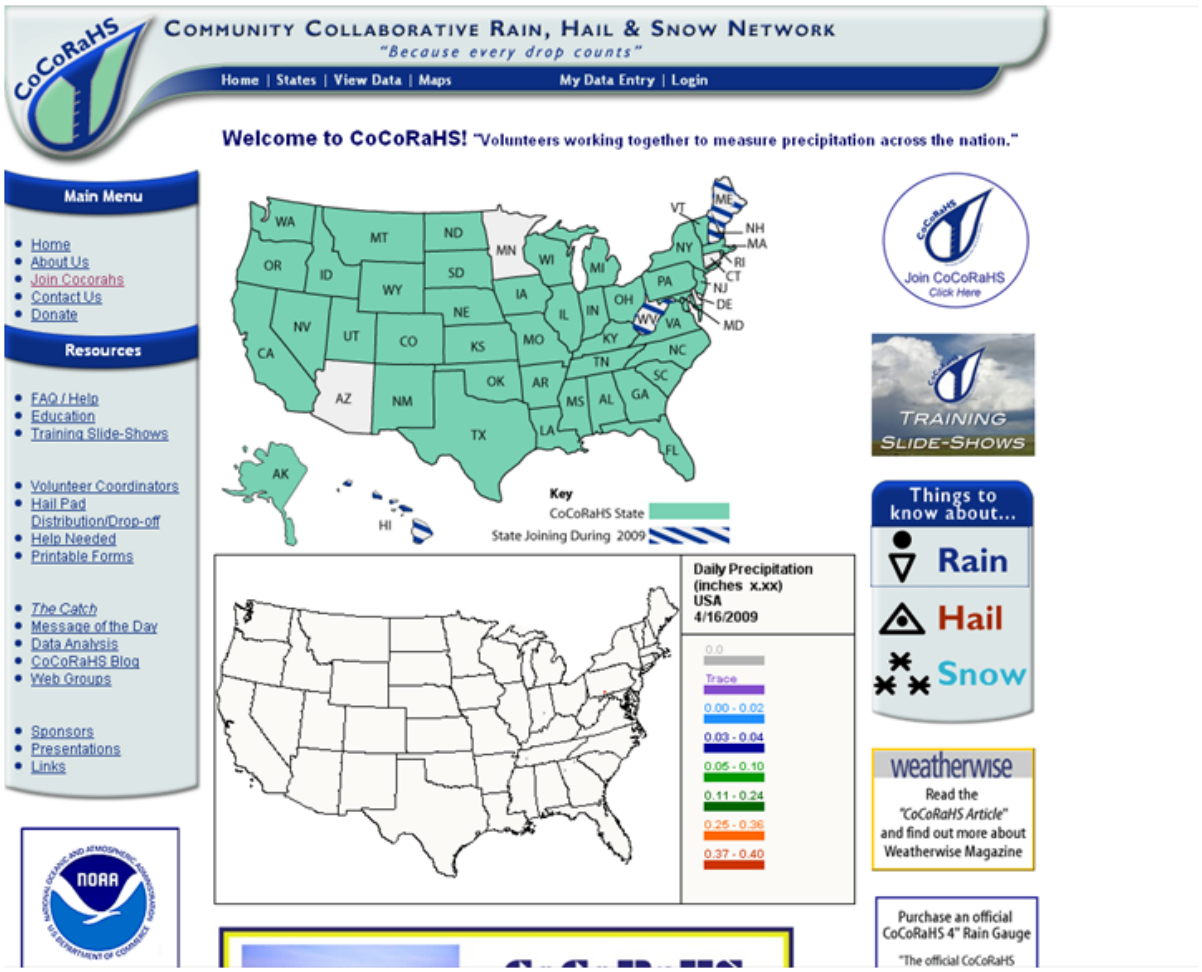
Beginning in the spring to summer of 2009, this demonstration will expand to include 14 states in the central US, including South and North Dakota, Nebraska, and Minnesota.

What does this mean for me?

The bottom line is...fewer Severe Thunderstorm Warnings. And when Severe Thunderstorm Warnings are issued, the storms will have a greater potential to cause damage.

Be A CoCoRahs Observer

Did you ever wish to serve as a Cooperative Observer but just do not have the time for consistent daily observations? Perhaps the CoCoRaHS program is for you! CoCoRaHS stands for Community Collaborative Rain Hail and Snow Network. It is an all volunteer network of people from across the country working together to measure and track precipitation. Every time there is a precipitation event (rain, snow or hail) the CoCoRaHS observer takes a measurement for his or her location with a 4" gauge. The reports received are important, as they enhance the available pool of precipitation data available. This is especially important for precipitation events with a wide range of values. For example, during a thunderstorm event, some folks receive little to no rain, while others receive quite a bit. Also, during winter months, CoCoRaHS reports help to track snowfall and snow depth. Anyone can join CoCoRaHS, with the more the merrier. Sign up is easy, and is done at the following website: http://www.cocorahs.org/. Then click on the "Join CoCoRaHS" link (as shown below).



Also located on the website is plenty of educational training on all things precipitation. If you would like to find out more about CoCoRaHS, check out the website, or call the Aberdeen NWS Office at 605-225-0519 and ask for Tim Kearns.

Are All Severe Weather Watches the Same?

At one time or another, we all have been placed under a severe thunderstorm watch or a tornado watch. But, the Storm Prediction Center (SPC) can also issue a *PDS* watch. *PDS* stands for *Particularly Dangerous Situation.* When long lived, strong and violent tornados are possible, a PDS watch is usually issued. PDS tornado watches are rare. In the period from 1996 to 2005, 3058 tornado watches were issued. Of that, only 7% (216) were PDS tornado watches. PDS severe thunderstorm watches can also be issued when the threat of very intense and well organized convective wind storms are possible. PDS thunderstorm watches are rarer than PDS tornado watches. In the same period listed above, 5827 severe thunderstorm watches were issued. Of that, less than 1% (22) were PDS thunderstorm watches. There are no hard and fast rules to issuing a PDS watch. The forecaster takes many variables into consideration, so the decision to issue a PDS watch is subjective. If the risk for severe weather is in the "High" category, PDS watches are issued most often.

If you happen to hear of a PDS watch being issued for your area some time this warm season, your awareness of the weather should be very high. Be sure to monitor your local media or NOAA weather radio to stay abreast of the possible violent weather conditions.

El Nino Arrives

NOAA scientists today announced the arrival of El Niño, a climate phenomenon with a significant influence on global weather, ocean conditions and marine fisheries. El Niño, the periodic warming of central and eastern tropical Pacific waters, occurs on average every two to five years and typically lasts about 12 months.

NOAA expects this El Niño to continue developing during the next several months, with further strengthening possible. The event is expected to last through winter 2009-10.

"Advanced climate science allows us to alert industries, governments and emergency managers about the weather conditions El Niño may bring so these can be factored into decision-making and ultimately protect life, property and the economy," said Jane Lubchenco, Ph.D., under secretary of commerce for oceans and atmosphere and NOAA administrator.

El Niño's impacts depend on a variety of factors, such as intensity and extent of ocean warming, and the time of year. Contrary to popular belief, not all effects are negative. On the positive side, El Niño can help to suppress Atlantic hurricane activity. In the United States, it typically brings beneficial winter precipitation to the arid Southwest, less wintry weather across the North, and a reduced risk of Florida wildfires.

El Niño's negative impacts have included damaging winter storms in California and increased storminess across the southern United States. Some past El Niños also have produced severe flooding and mudslides in Central and South America, and drought in Indonesia.

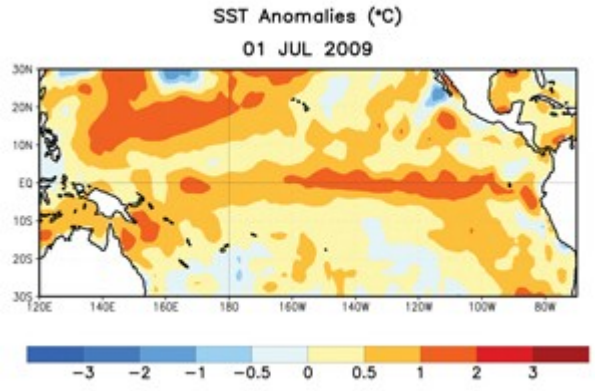
An El Niño event may significantly diminish ocean productivity off the west coast by limiting weather patterns that cause upwelling, or nutrient circulation in the ocean. These nutrients are the foundation of a vibrant marine food web and could negatively impact food sources for several types of birds, fish and marine mammals.

In its monthly El Niño diagnostics discussion today, scientists with the NOAA National Weather Service Climate Prediction Center noted weekly eastern equatorial Pacific sea surface temperatures were at least 1.0 degree C above average at the end of June. The most recent El Niño occurred in 2006.

El Niño includes weaker trade winds, increased rainfall over the central tropical Pacific, and decreased rainfall in Indonesia. These vast rainfall patterns in the tropics are responsible for many of El Niño's global effects on weather patterns.

NOAA will continue to monitor the rapidly evolving situation in the tropical Pacific, and will provide more detailed information on possible Atlantic hurricane impacts in its updated Seasonal Hurricane Outlook scheduled for release on August 6, 2009.

NOAA understands and predicts changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and conserves and manages our coastal and marine resources.



Sea surface temperatures along the equatorial Eastern Pacific, as of July 1, are at least one degree above average — a sign of El Niño

Cooperative Holm Award Winner

Henry T. Desnoyers is the Aberdeen 2009 John Campanius Holm award winner

The Clark, SD station is part of the nation's Historical Climate Network due to its quality data and long period of record.

The Clark SD COOP site has been run off and on by the Desnoyers family for the last 57 years. In May of 1952, Henry's father became the Clark observer. With the help of his sister, they took observations as a family until 1961 when Henry's father passed away. Henry's sister, Kathy, took over full responsibility until she moved away to attend college in 1964.

From 1964 until 1984, the Desnoyers next door neighbor, John Wagner took the official observations. In 1984 John could no longer continue his service, so he passed the responsibility back to the Desnoyers family and Henry took over and has continued ever since. The Desnoyers family has been instrumental in continuing the long history of the Clark COOP site whose beginnings date back to 1895.

New Employee

Gene Wolter

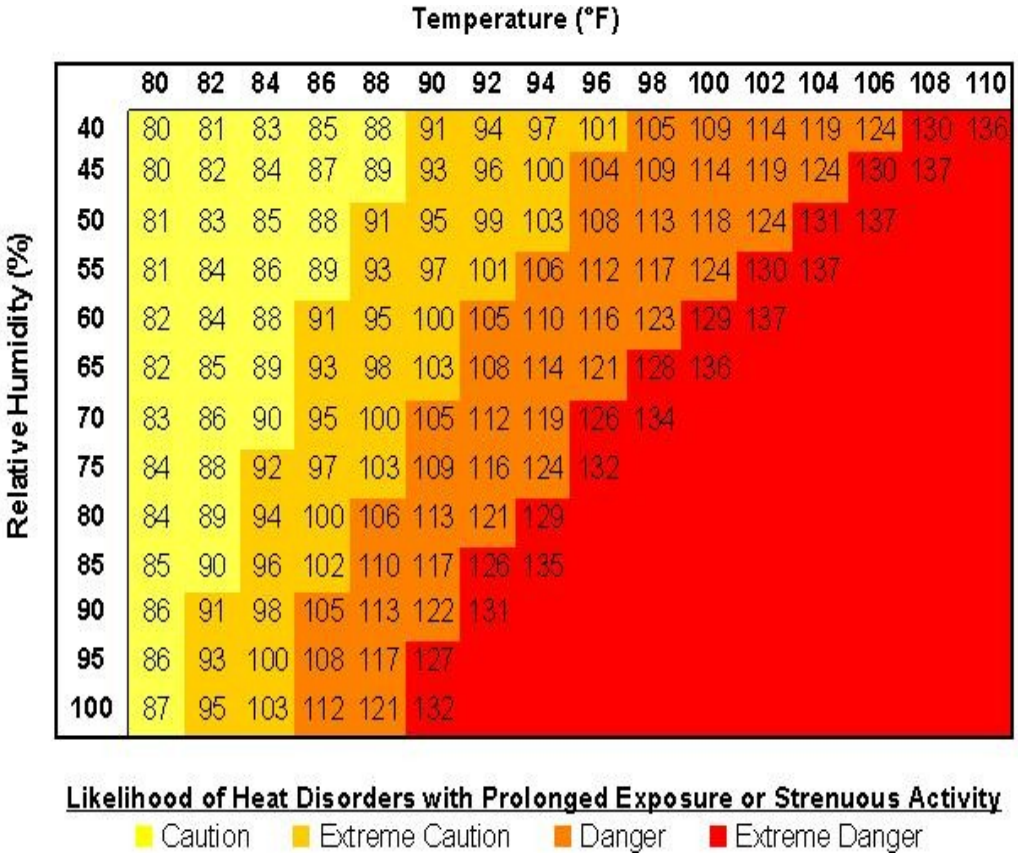
My name is Gene Wolter and I am the new Facilities Engineering Technician at the National Weather Service in Aberdeen. I am 53 years old, and have been married for 34 year. My wife and I have three children, two boys and a girl, as well as three grandsons and one granddaughter.

I have been a Firefighter for 35 years, and am currently the Assistant Chief. I am a SD certified instructor, nationally certified fire investigator, and a former Emergency Medical Technician (EMT). I have been selected as fire fighter of the year three times. I am a SD fire service instructor, and have been involved in several court trials relating to fires. I have been a machinist/mechanic and worked in machine shops for 36 years. I have been involved with building construction since I was about 9 years old, and was taught by one of the greatest...my Dad! I just received my first certificate of recognition from the weather service.

Welcome

Congratulations go out to Dave Hintz...the new Warning Coordination Meteorologist in Aberdeen. Dave was previously a senior forecaster here in Aberdeen, and has been with the Aberdeen National Weather Service for almost 11 years.

Heat Index Chart



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The summer night is like a perfection of thought.

~ Wallace Stevens